

What is claimed is:

1. A prosthesis for implantation into a bone, comprising:

a sleeve having an inner passageway containing a central opening with at least one channel located on the periphery of said central opening, and an  
5 outer surface, sized to fit tightly within the bone, containing at least one section contacting the bone, said section having a textured surface to promote bone ingrowth;

and a rod component comprising an elongated shank having an outer surface extending between a proximal end and a relatively narrow distal end,  
10 with at least a portion of said shank having at least one lobe extending therefrom, said portion of said shank sized to fit within said inner passageway of said sleeve;

wherein when said rod component is inserted through said sleeve which has been inserted tightly into the bone, the interaction between said  
15 lobe of said shank of said rod component and said channel within said sleeve allow for a small amount of rotation, thus reducing tensional shear stress between said prosthesis and the bone.

2. The device of claim 1 wherein said textured surface comprises an array of beads.

20 3. The device of claim 1 wherein said textured surface comprises an array of fibrillar wires.

4. The device of claim 1, wherein said rod component contains a collar stop for contacting said sleeve.

5. The device of claim 1, wherein said sleeve contains a plurality of  
25 channels on the periphery of said central openings and said rod component

contains a plurality of lobes along at least a portion of said shank  
corresponding to each channel.

6. The device of claim 5, wherein the cross section of at least a portion of  
said slave and said rod component form complementary cruciform shapes.

5 7. The device of claim 1, wherein said bone contacting section of said  
sleeve contains a bone growth promoting material.

8. The device of claim 7, wherein said bone growth promoting material  
... comprises bone morphogenetic protein (BMP).

9. The device of claim 7, wherein said bone growth promoting material  
10 comprises platelet rich plasma.

10. The device of claim 1, wherein said device contains a rod component  
having varying degrees of version.

11. The device of claim 10, wherein said version comprises antiversion.

12. The device of claim 10, wherein said version comprises retroversion.